NETRS2321POE

Instruction Manual

Ethernet Device Server

1-Port Industrial RS-232 Ethernet Device Server - Power over Ethernet

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FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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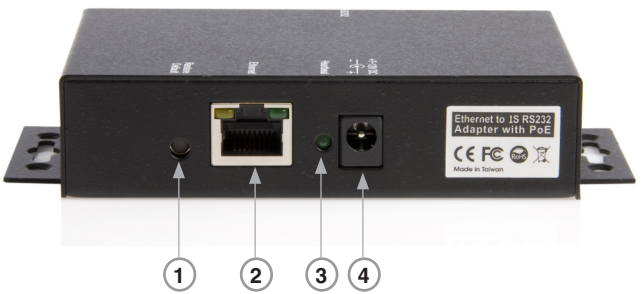
Hardware Guide

Package Contents

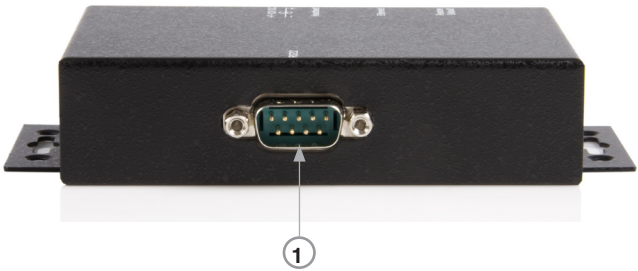
- 1 x Driver CD
- 1 x Industrial Switch
- 1 x Instruction Manual
- 1 x Power Adapter

Front Panel



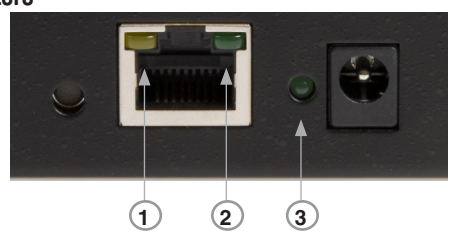
1. **Switch to Restore Default Settings -** This switch can be used to reset the product to its factory default settings. Pressing the switch using either a pen or similar tool will immediately restore the unit to its default settings.
2. **RJ45 LAN Connector -** 10/100Mbps Ethernet port. It supports the auto cross-over feature, and allows use of the same cable to connect to either a Hub/Switch or a host computer.
3. **Heartbeat LED**
4. **+7~12VDC Power Input DC Jack**

Rear Panel



1. RS-232 Connector

LED Indicators



1. 10/100 Mbps LED (amber color)

2. Link/Activity LED (green color)

3. Heartbeat LED (green color)

LED Name	Colour	Function
10/100 Mbps	Green	**On:** 100Mbps. **Off:** 10Mbps.
Link/Activity	Green	**On:** Linked. **Blinking:** Transfering Data.
Heartbeat	Amber	**Blinking:** Normal Operation. **Not Blinking:** Malfunction.

Hardware installation

1. Use static electricity discharge precautions. Remove possible static discharge potential from any objects that the adapter may come in contact with prior to installation. This can be accomplished by touching a bare metal chassis rail after you have turned off the power.
2. If you will be externally powering the device, connect the DC power adapter. If connecting to a PoE switch, hub, or other device, then a power adapter is not required, as the product will draw its power from the host device it is connected to. In this case, ensure that your switching hub is the PoE type that can act as PSE (Power Source Equipment).
3. Connecting LAN cable: Use a standard straight-through Ethernet cable to connect to a Hub or Switch. If you connect the adapter to your computer's Ethernet port instead, you don't need to change to a cross-over type cable since the adapter provides the auto cross-over feature.
4. Connect the Adapter's serial port to your serial device.
5. Use the DIN RAIL mounting Kit if you want to place the product on the industrial DIN RAIL. **(optional)**

Configuring the Adapter

Setting the IP Address

Please consult your Network Administrator to determine the appropriate IP address. The adapter comes with the factory installed IP address **192.168.1.254**. It is ready to accept a new IP address from a DHCP Server. If your network has a DHCP server, it will automatically assign an IP address to the Adapter the first time it is connected and powered up.

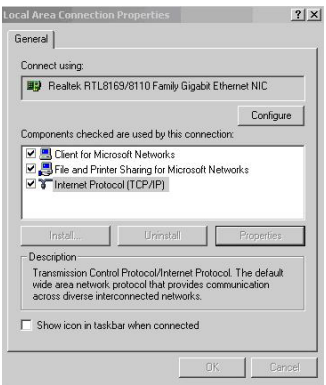
1. Setting the IP Address from a DHCP Server

A DHCP server will automatically assign an IP address (dynamic address) as well as Subnet Mask and Gateway to this adapter. If you power up the Adapter without a fixed (static) IP address, the DHCP server will be able to assign an IP address (Note: By default, DHCP is disabled. If you wish to support DHCP, Enable it in the **Adapter Setup Menu**).

Note: If you will set the IP address using another method, you will need to use a static IP address. To do this, Disable DHCP (this is the default setting) in the **Adapter Setup Menu**.

2. Setting the IP Address using a Web Browser

Please ensure that your PC's IP address is set to the same subnet as the adapter. If not, you will need to change your PC's IP address from the **Local Area Connection Properties** menu, shown below:



Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
192 . 168 . 1 . 1
Subnet mask:
255 . 255 . 255 . 0
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

Run your browser and access the product by entering the default (**192.168.1.254**) or current IP address into your browser's address window. Enter the password (default has no password), then go to **Change your IP Address**, and make the necessary changes.

3. Setting the IP Address using the Em.exe Utility

The **Em.exe** is a Microsoft Windows based utility used to identify the adapters connected on the same subnet and network segment. To run the Em.exe utility, please insert the driver CD supplied with the Adapter. Open the program at the following location (assume the CD-ROM drive is at E):

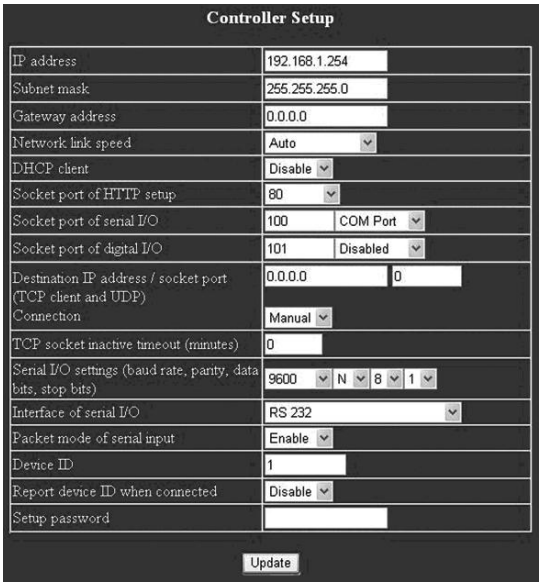
E:\IO_over_IP\Utilities\Em\Em.exe

Managing the Adapter Settings

When you enter the **Adapter Setup Menu**, the following page will be available for your access. By default there is no password for entry.

Once you have entered the **Controller Setup Menu** and made the necessary changes, click the **Update** button. Also ensure that you make note of your password as you will need it to enter the setup menu again.

Controller Setup Menu Items



Menu Item	Description
IP Address	4 numbers separated by dots. If enabled, these can be assigned by the DHCP server.
Subnet Mask	4 numbers separated by dots. If enabled, these can be assigned by the DHCP server.
Gateway Address	4 numbers separated by dots. If enabled, these can be assigned by the DHCP server.
DHCP Client	If disabled, the IP address, Subnet mask and Gateway address must be assigned manually.

Menu Item	Description
Socket Port of HTTP Setup	If disabled, the IP address, Subnet mask and Gateway address must be assigned manually.
Socket Port of Serial I/O	**Port Number:** Any number between 1 and 65536,except 80 and 8080 (these have been designated as the web pages). **Socket Type:** TCP Server - Uses TCP protocol, passively waits for Client. TCP Client - Uses TCP protocol, actively connects to Server. UDP Client - Uses UDP protocol, exchanges packets with Server without connection.
Socket Port of Digital I/O	Spared function for the future expansion. Currently has no function.
Destination IP Address/Socket Port (TCP client and UDP)	The Server IP address under TCP client or UDP client mode.
Serial I/O Settings (baud rate, parity, data bits, stop bits)	**Baud Rate:** 300 – 115200 bps **Parity Bits:** No Parity, Even, Odd **Data Bits:** 5, 6, 7, 8 **Stop Bit:** 1 or 2
Interface of serial I/O	RS-232
Packet mode of serial input	If packet mode is disabled, the data received from the serial port will be transmitted immediately with minimal delay. If packet mode is enabled, the data will be saved in the buffer memory first, and transmitted when the entire packet is received or when the buffer memory is full.

Menu Item	Description
Packet mode inter-packet timeout	In packet mode, the time constant used to determine if the packet is finished. Acceptable range is 10 to 1000 ms.
Device ID	User assigned device ID number. Acceptable range is 0 to 65535.
Report device ID when connected	If this function is enabled, the device will report the device ID after the socket is connected. The format is: Serial I/O socket nnnnnA[LF][CR] Digital I/O socket nnnnnB[LF][CR] There are eight bytes: nnnnn is the 5-digit device ID, [LF] is decimal 10, and [CR] is decimal 13
Setup password	The login password can be empty or 1 to 15 characters long. If the password is empty then no password is required for login.

Software Installation

VSP Virtual COM Port Driver

The VSP is a redirector driver that allows your applications to use serial devices provided by serial device servers on your network. This redirection is achieved by creating one or more virtual COM port(s) that allow these networked serial devices to function as though they are directly connected to the local computer.

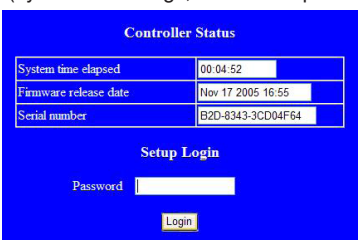
Since the redirector's virtual COM port(s) function much like standard Windows COM ports, your application software sees no difference between a local serial device and one provided by a serial server.

Installing the VSP Virtual COM Port Driver

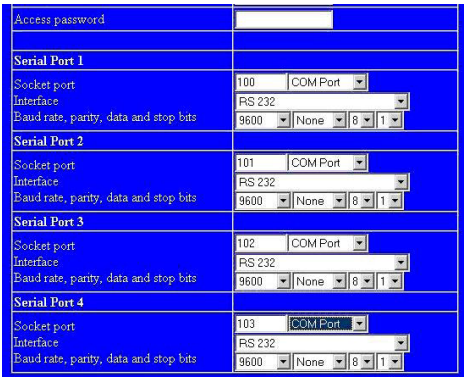
1. Locate the necessary Software in the following folder on your driver CD. The **VSP COM.exe** is the redirector software. The **Em.exe** is used to setup the hardware mode to support VSP redirector.

2. Configure your hardware mode to support VSP.
   - Run the **EM.exe** application to find the device hardware.

   - Enter the setup menu by double clicking the listed hardware.
   - Click **Login** (by default settings, there is no password).

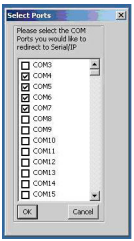


- Change the settings to **COM Port**, save the changes, and exit the setup menu.

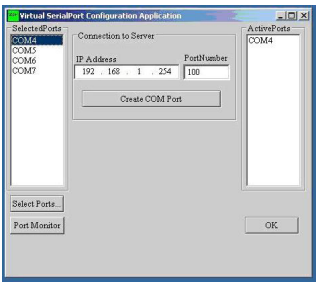

Access password
Serial Port 1
Socket port 100 COM Port
Interface RS 232
Baud rate, parity, data and stop bits 9600 None 8 1
Serial Port 2
Socket port 101 COM Port
Interface RS 232
Baud rate, parity, data and stop bits 9600 None 8 1
Serial Port 3
Socket port 102 COM Port
Interface RS 232
Baud rate, parity, data and stop bits 9600 None 8 1
Serial Port 4
Socket port 103 COM Port
Interface RS 232
Baud rate, parity, data and stop bits 9600 None 8 1

3. Run the **VSP Setup Program.**

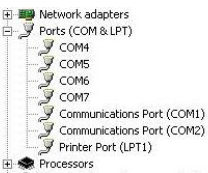
- Double click the **VSP COM.exe** application in the VSP folder on the supplied CD. You may receive a message indicating that this driver has not yet passed Windows logo testing. If so, click **Continue Anyway.**
- **Select the COM ports to be redirected by checking the boxes next to them:**



- **Set the COM Port settings:** The following figure shows only one COM port setting being changed. You may have 4 COM ports (or 1, 2 ports depending on the model), you will need to set it 4 times for, once for each COM port.



- **Checking the Installation:** Go to the **Device Manager** (right click **My Computer, Hardware, Device Manager**) to check the installation, a successful settings will look something like the following figure:



Specifications

Specification	NETRS2321POE
LAN	
Connector	RJ45
Speed	10/100Mbps
RS-232	
Number of Ports	1 x RS-232
Signals	TXD, RXD, RTS, CTS, DTR, DSR, DCD, GND
Connector	DB9 Male (RS-232)
Parity	None, Odd, Even
Data Bits	6, 7, 8
Stop Bits	1, 2
Speed	300 to 115.2Kbps
Power Requirements	
Power Input	12V DC (via DC Jack), or 48V DC (via Ethernet Cable, PoE model only)
Power Consumption	110mA @ 12V DC
Mechanical Specifications	
Material	Metal
Gross Weight	250.5g (0.55 lb)

Specification	NETRS2321POE
Environmental	
Operating Temperature	0 to 55C (32 to 131F)
Storage Temperature	-20 to 85C (-4 to 185F)
Operating Humidity	5 to 95% RH

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